

REVISED VERSION

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
8 July 2004 (08.07.2004)

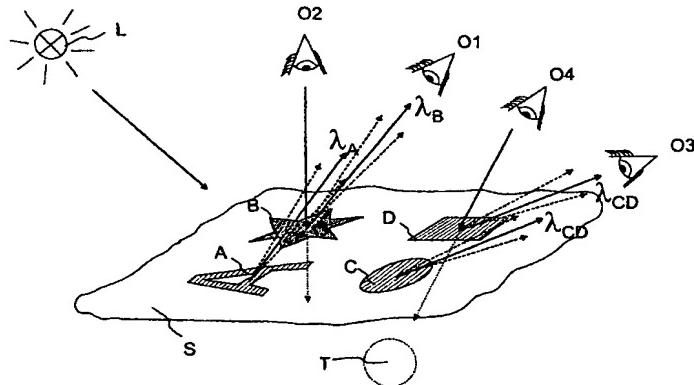
PCT

(10) International Publication Number
WO 2004/057382 A1

- (51) International Patent Classification⁷: **G02B 5/32**,
G03H 1/02, G11C 13/04
- (21) International Application Number:
PCT/FI2003/000979
- (22) International Filing Date:
22 December 2003 (22.12.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
20022268 23 December 2002 (23.12.2002) FI
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- (81) Designated States (*national*): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, EG, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT (utility model), PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,

[Continued on next page]

(54) Title: VISUAL EFFECT BASED ON A MICRO-OPTICAL GRID STRUCTURE



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(57) Abstract: The invention relates to a micro-optical grid structure (G) formed on a substrate (S) that is preferably produced as a surface grid structure. The invention also relates to a method for producing said grid structure. Furthermore, the invention relates to a product that comprises one or several pattern areas (A, B, C, D), which single pattern areas are formed by means of the grid structure according to the invention. According to the invention the grid structure (G) is arranged to produce for a viewer a holographic or corresponding visual effect based on the diffraction of light by directing the light diffracted from the grid structure and corresponding to the design wavelength (λ) substantially to only a few diffraction orders (m). Single diffraction order thus corresponds to a certain observing direction of the visual effect observed on said design wavelength. According to the invention the grid structure is arranged to leave a free range of angles between adjacent observing directions, such that the grid structure (G) being examined from directions corresponding to said range of angles does not produce for the viewer a clearly observable effect based on diffraction, said grid structure being thus substantially transparent. The invention is suitable for producing visual effects that are transparent in the above-described way but at the same time clearly visible in the observing directions for example on the substrates transparent as such.



SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the revised international search report: 19 May 2005

Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(15) Information about Correction:

see PCT Gazette No. 20/2005 of 19 May 2005, Section II

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

CORRECTED

INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 2003/000979

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: G02B 5/32, G03H 1/02, G11C 13/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: G02B, G03H, G11C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE, DK, FI, NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5142384 A (WOOD, G.P. ET AL), 25 August 1992 (25.08.1992), column 1, line 52 - column 2, line 5; column 2, line 62 - column 3, line 15, claim 1 --	1-28
A	EP 0930549 A1 (HOLTRONIC TECHNOLOGIES LIMITED), 21 July 1999 (21.07.1999), see the whole document --	1-28
A	US 5625619 A (TODA, T. ET AL), 29 April 1997 (29.04.1997), see the whole document -----	1-28

 Further documents are listed in the continuation of Box C. See patent family annex.

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- "O" document referring to an oral disclosure, use, exhibition or other means
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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search

22 March 2005

Date of mailing of the international search report

22 -03- 2005

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Swedish Patent Office
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INTERNATIONAL SEARCH REPORT

Information on patent family members

01/03/2005

International application No.

PCT/FI 2003/000979

US	5142384	A	25/08/1992	EP	0403134	A	19/12/1990
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